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ABSTRACT

American society and classrooms are culturally multifaceted. However, people of color are woefully underrepresented in many professions, particularly those related to the sciences and allied technical fields. An expanding gap, for example, continues to separate the degrees of participation in science programs and careers among European Americans and African Americans. In an effort to fill this gap, many teachers are searching for methods and resources to aid in teaching the contributions that all ethnic groups have made in science. This listing, while intended for readers of all cultures and ethnic identities, contains a list of books and other resources of African American scientists, engineers, and inventors. (ZWH)

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African Americans in Science: Books for Young Readers

David L. Haury

American culture is multi-faceted and complex, an elaborate mosaic of ethnic groups, diverse heritages, interwoven traditions, and multiple perspectives. There is likely no region on earth with more reasons or resources to embrace and celebrate human diversity than North America. Unfortunately, the potential goes unrealized, with people of color woefully underrepresented in many professions, particularly those related to the sciences and allied technical fields. An ever-expanding gap, for example, continues to separate the degrees of participation in science programs and careers among European Americans and African Americans (Danek, Calbert, & Chubin, 1994).

There is no single explanation for the gap, but two factors are surely part of the equation: (a) African Americans experience more obstacles along the path to careers in science (Malcom, 1990; Pearson & Bechtel, 1989), and (b) African Americans have fewer opportunities to "see" people like themselves in the sciences. As Pearson (1989, p.140) has mentioned, "many black students...who may have an interest in science and technical careers are first-generation college students. Thus, they may seldom have had the opportunity to meet and be exposed to blacks who work in these fields." There is, then, an ongoing need to counteract the twin forces of racism in society and the self-limiting aspirations acquired among minority populations. As Ford (1994) has said, "Ultimately racism cannot survive where differences and diversity are tolerated, accepted, welcomed, honored, and celebrated."

This listing of books and other resources is intended for readers of all cultural and ethnic identities. The readings present a rich variety of contributions and achievements made by African American scientists, engineers, and inventors. Stories and biographies from these sources can be used to facilitate the celebration of diversity in the sciences among all readers as well as fuel the fires of imagination among young African American students. The various accounts highlight the considerable contributions of African Americans to the ongoing development of science and engineering within the fabric of American society. Parents, teachers, and other education practitioners are encouraged to use this list to provide an enriched reading environment for young people.

This listing is largely based on two documents produced by the Library of Congress: *African American Science Books for Younger Readers*, compiled by Vivian Bellinger-Biggers (*LC Science Tracer Bullet 94-4*), and *African-American Women in the Sciences and Related Disciplines*, compiled by Gail T. Austin (*LC Science Tracer Bullet 93-4*). These and other *LC Science Tracer Bullets* are available free of charge from the Science Reference Section, Library of Congress, 10 First Street, SE, Washington, DC, 20540-5580.

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Danek, J. G., Calbert, R., & Chubin, D. E. (February, 1994). NSF's programmatic reform: The catalyst for systemic change. Paper presented at an invitational conference sponsored by the National Science Foundation, "Building the System: Making Science Education Work," Washington, DC.

Ford, C. W. (1994). *We can all get along*. New York: Dell.

Malcom, S. M. (1990). Reclaiming our past. *Journal of Negro Education, 59*(3), 246-59.

Pearson, W., Jr. (1989). The future of blacks in science: Summary and Recommendations. In W. Pearson, Jr. & H. K. Bechtel (Eds.), *Blacks, science, and American education* (pp. 137-152). New Brunswick, NJ: Rutgers University Press
[ED 325 353]

Pearson, W., Jr., & Bechtel, H. K. (Eds.). (1989). *Blacks, science, and American education*. New Brunswick, NJ: Rutgers University Press.
[ED 325 353]

Collective Biographies

African-American scientists. McKissack, P., & McKissack, F. Brookfield, CT: Millbrook Press, 1994. 96 p.
Q141.M36 1994
Examines the lives and achievements of African American scientists from colonial days to the present.

Against all opposition: Black explorers in America. Haskins, J. New York: Walker, 1992. 86 p. Bibliography: p. 83-84. E185.96. H353 1992

American Black scientists and inventors. Washington, DC: National Science Teachers Association, 1975. 79 p.
Q141.A46
Contents: Jenkins, E.S. Ernest E. Just, cell physiologist; Hudson, G.H. Garrett Augustus Morgan: Big Chief Mason, ingenious American; Ryder, E.C. George Washington Carver, agricultural scientist; Jackson, W.S. Benjamin Banneker, Black astronomer; Jenkins, E.S. Percy L. Julian, soybean chemist; Jackson, W.S. Granville T. Woods, railway communications wizard; Hudson, G.H.

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Charles Richard Drew, blood plasma pioneer; Hudson, G.H. Charles Henry Turner, scientist, teacher, author, humanitarian.—Hudson, G.H. Matthew A. Henson, famous explorer; Jenkins, E.S. Leon Roddy, spider man; Ryder, E.C. Elijah McCoy, inventor; and Ryder, E.C. Daniel Hale Williams, pioneer heart surgeon. Includes bibliographies.

An African-American Bibliography: Science, medicine, and allied fields. Selected resources from the collections of the New York State Library. Strasser, T. C. Albany, NY: New York State Library, 1991

[ED 332 713]

This bibliography was issued in honor of both Black History Month and Inventors Day in February 1991. It focuses on the contributions of African Americans in the areas of science, technology, medicine, and allied fields such as dentistry and nursing. The materials cited emphasize the accomplishments of individuals from all parts of the United States, in all periods, and from all backgrounds. The bibliography includes books, selected periodical articles, patents, and other materials.

Black Americans in aviation. Peters, R. E., & Arnold, C. M. San Diego, CA: Neyenesch Printers, 1975. 85 p. Bibliography: p. 83.

TI553.P47

Blacks in science: Astrophysicist to zoologist. Carwell, H. Hicksville, NY: Exposition Press, 1977. 95 p. Bibliography: p. 93-94.

Q141.C23

Black inventors of America. Burt, M. Portland, OR: National Book Co., 1969. 143 p.

T39.B87 1969

Black mathematicians and their works. Edited by V. K. Newell and others. Ardmore, PA: Dorrance, 1980. 327 p. Includes Bibliographies.

QA28.B58

Black pioneers of science and invention Haber, L. San Diego: Harcourt Brace Jovanovich, 1991, 264 p. Bibliography: p. 245-254.

Q141.H2 1991

(Reprint. Originally published, New York, Harcourt, Brace & World, 1970.)

Black scientists. Yount, L. New York: Facts on File, 1991. 111 p. Bibliography: p. 106.

Q141.Y68 1991

Created equal: the lives and ideas of Black American innovators. Brodie, J. M. New York: W. Morrow, 1993. 208 p.

E185.96.B835 1993

Creativity and inventions: The genius of Afro-Americans and women in the United States and their patents. Ives, P. C. Arlington, VA: Research Unlimited, 1987. 88 p. Bibliography: p. 81-86.

T21.184 1987

11 African-American doctors. Rev. and expanded ed. Hayden, R. C. Frederick, MD: Twenty-First Century Books, 1992. 206 p.

R695.H39 1992

The hidden contributors: Black scientists and inventors in America. Klein, A. E. Garden City, NY: Doubleday, 1971. 203 p.

E185.8.K56

9 African-American inventors. Hayden, R. C. Frederick, MD: Twenty-First Century Books, 1992. 169 p.

T39.H39 1992

Outward dreams: Black inventors and their inventions. Haskins, J. New York: Walker, 1991. 101 p. Bibliography: p. 97-98.

T39.H37 1991

Profiles of pioneer women scientists. O'Hern, E. M. Washington, Acropolis Books, 1985. 264 p. Bibliography: p. 235-250.

R153.O36 1985

The real McCoy: African-American invention and innovation, 1619-1930. James, P. P. Washington, Published for the Anacostia Museum of the Smithsonian Institution by the Smithsonian Institution Press, 1989. 110 p. Bibliography: p. 103-106.

T39.J28 1989

A Salute to Black scientists and inventors. Chicago: Empak Enterprises, 1985. 28 p. (An Empak "Black history" publication series, v.2)

Q141.S285 1985

7 African-American scientists. Rev. and expanded ed. Hayden, R. C. Frederick, MD: Twenty-First Century Books, 1992. 171 p.

Q141.H37 1992

Individual Biographies

Benjamin Banneker. Conley, K. New York: Chelsea House Publishers, 1989. 109 p. Bibliography: p. 106.

QB36.B22C66 1989

Chronicles the life of an 18th-century Black tobacco farmer who taught himself mathematics, astronomy, and clockmaking, became famous for his almanacs, and participated in the original survey of Washington, D.C.

Charles Drew. Mahone-Lonesome, R.. New York: Chelsea House Publishers, 1990. 109 p.

RD27.35.D74M34 1990

A biography of the surgeon who conducted research on the properties and preservation of blood plasma and was a leader in establishing blood banks.

Charles Richard Drew, M.D. Wolfe, R. New York: F. Watts, 1991. 64 p. Bibliography: p. 62.

RD27.35.D74W65 1991

A bibliography of the noted physician, focusing on his discovery of methods for separating plasma from blood.

George Washington Carver. Gray, J. M. Englewood Cliffs, NJ: Silver Burdett Press, 1991. 138 p. Bibliography: p. 127-129.

S417.C3G73 1990

Describes the life and accomplishments of the former slave who became a scientist and devoted his career to helping the South improve its agriculture.

Gifted hands. Carson, B., & Murphey, C. B. Washington, DC: Review and Herald Pub. Association, 1990. 232 p.

RD592.9.C37A3 1990b

The chief of pediatric neurosurgery at Johns Hopkins University hospital tells about his life and some of his cases.

Lewis Howard Latimer. Turner, G. T. Englewood Cliffs, NJ: Silver Burdett Press, 1991. 128 p. Bibliography: p. 113-119.

T40.L37T87 1990

A biography of the African-American inventor who, among other contributions, invented an inexpensive method of manufacturing carbon filaments for electric light bulbs.

The life of Charles Drew. Talmadge, K. S. Frederick, MD: Twenty-First Century Books, 1992. 84 p. Bibliography: p. 83.

RD27.35D74T35 1991

A biography of the Black surgeon who was noted for his research on blood plasma.

Man with a million ideas: Fred Jones, genius/inventor. Ott, V., & Swanson, G. B. Minneapolis: Lerner Publica-

tions Co., 1977. 109 p.
T40.J59O87 1977
A biography of Frederick McKinley Jones, the Black engineer and inventor who is credited with many inventions, including refrigeration units for trucks and railroad cars, the portable x-ray unit, and the ticket dispenser.

Mathematician and administrator, Shirley Mathis McBay. Verheyden-Hilliard, M. E. Bethesda, MD: Equity Institute, 1985. 31 p.
QA29M38V47 1985
A brief biography of the woman mathematician who was the first African American to earn a Ph.D. from the University of Georgia.

Matthew Henson. Gilman, M. New York: Chelsea House Publishers, 1988. 110 p. Bibliography: p. 108.
G635.H4G55 1988
Follows the life of the Black explorer who accompanied Robert Peary on the expedition to the North Pole

Paul Cuffe. Diamond, A. New York: Chelsea House Publishers, 1989. 111 p. Bibliography: p. 108.
E185.97.C96D53 1989
A biography of the American seaman and merchant who encouraged fellow Blacks to colonize Sierra Leone, sought a stronger legal position for Blacks in America, and was responsible for a Massachusetts law giving Blacks the right to vote.

Queen Bess: daredevil aviator. Rich, D. L. Washington,DC: Smithsonian Institution Press, 1993. 153 p. Bibliography: p. 137-141.
TL540.C646R52 1993
About Bessie Coleman.

The real McCoy: the life of an African-American inventor. Towle, W., Paintings by Wil Clay. New York: Scholastic, 1993. 1 v. (unpaged).
T40M43T68 1993
A biography of Elijah McCoy, the Canadian-born Black American who studied engineering in Scotland and patented over 50 inventions despite the obstacles he faced because of his race.

Ronald McNair. Naden, C. J. New York: Chelsea House, 1990. 109 p. Bibliography: p. 106.
TL789.85M36N34 1990
A biography of the Black astronaut who was a crew member aboard the ill-fated Challenger space shuttle mission that exploded on takeoff in January 1986.

Shoes for everyone: a story about Jan Matzeliger. Mitchell, B. Minneapolis: Carolrhoda Books, 1986. 63 p.
TS990.M335M58 1986
A biography of the half-Dutch/half-Black Surinamese man who, despite the hardships and prejudice he found in his new Massachusetts home, invented a shoe-lasting machine that revolutionized the shoe industry in the late 19th century.

Scientist and administrator, Antoinette Rodez Schiesler. Verheyden-Hilliard, M. E. Bethesda, MD: Equity Institute, 1985. 31 p.
QD22.S34V47 1985
Relates the story of an African American woman who overcame childhood difficulties with mathematics and went on to earn a Ph.D. in chemistry.

Scientist and strategist, June Rooks. Verheyden-Hilliard, M. E. Bethesda, MD: Equity Institute, 1988. 31 p.
Q143.R58V47 1988
A brief biography of June Rooks, a Black woman who contracted polio as a child, struggled against poverty, earned her degree in physics, and went on to become an operations research analyst with the U.S. Navy.

Space challenger: the story of Guion Bluford; an authorized biography. Haskins, J., & Benson, K. Minneapolis: Carolrhoda Books, 1984. 64 p.
TI789.85B58H37 1984
Guy Bluford, the first Black American in space, was a crew member of the space shuttle Challenger on its August 1983 flight.

Stop and go: Garrett Morgan, inventor. Sims, D. J. Los Angeles: Children's Cultu-Lit Book Co., 1980. 32 p.
TE228S56 1980
A brief biography of the inventor of the traffic light and the gas mask.

Sure hands, strong heart: the life of Daniel Hale Williams . Patterson, L. Nashville: Abingdon, 1981. 159 p. Bibliography: p. 157-159.
RD27.35.W54P37
A biography of the Black surgeon who, among other achievements, was the first to perform open heart surgery.

Trailblazer; Negro nurse in the American Red Cross. Pitrone, J. M. New York: Harcourt, Brace & World, 1969. 191 p.
RT37.D3P5
A biography of Frances Reed Elliott Davis whose determination to help relieve the physical pains of her people led her to become the first Black nurse enrolled by the American Red Cross.

Biographical Reference Tools

A Salute to historic Black firsts. Publisher and editor, Richard L. Green. Chicago: Empak Pub. Co., c1989. 32 p. (An Empak "Black history" publication series, v. 7)
E185.96S243 1989

African American biographies: profiles of 558 current men and women. Hawkins, W. L. Jefferson, NC: McFarland, 1992. 490 p.
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A second volume, profiling 332 contemporaries, is in press.

African American history: four centuries of Black life. Hughes, L., & Meltzer, M. New York: Scholastic, 1990. 312 p.
E185.H83 1990
Revision of *A pictorial history of Black Americans*, 5th ed. (c1983)

Afro-Bets Book of Black heroes from A to Z: an introduction to important Black achievers for young readers. Hudson, W., & V. Wilson Wesley. Orange, N.J., Just Us Books, 1988. 54 p. Bibliography: p. 52.
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Black history, Black lives: a comprehensive list of Black biographies for young people arranged by birthdate. Ginsberg, Dale Ann. Merion Station, PA: Anndale Books, 1986. 25 p.
Z1361.N39G54 1986

Blacks in science: Ancient and modern. Editor, Ivan Van Sertima. New Brunswick, USA., Transaction Books, 1983. 302 p. (Journal of African civilizations, v. 5, no. 1/2)
DT14.J68, v. 5, no. 1/2 Bibliography: p. 295-297.

Blacks in science and medicine. Sammons, V. O. New York: Hemisphere Pub. Corp., 1990. 293 p. Bibliography: P. 261-268
Q141.B58 1990

The Black 100: a ranking of the most influential African-Americans, past and present. Salley, C. Seacaucus, NJ: Carol Pub. Group, 1993. 383 p. Bibliography: p. 374-375.
E185.96S225 1993

Black women in America: An historical encyclopedia. Editor, Darlene Clark Hine. Associate editors, Elsa

Barkley Brown, Rosalyn Terborg-Penn. Brooklyn, NY: Carlson Pub., 1993. 2v. (1530 p.)

E185.86B542 1993

See especially entries for aviators, nurses, mathematicians, physicians, and scientists in "Classified list of biographical entries": v.2, p. 1345-1352. Bibliography: p. 1333-1344.

Chronology of African-American history: significant events and people from 1619 to the present. Hornsby, A. Detroit: Gale Research, 1991. 526 p. Includes bibliographical references.

E185.H64. 1991

Epic lives: one hundred Black women who made a difference. Jessie Carney Smith, editor. Detroit, Visible Ink Press, 1993. 632 p.

E185.96.E65 1993

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Famous firsts of Black Americans. Hancock, S. Gretna, LA: Pelican Pub. Co., 1983. 94 p. Bibliography: p. 93-94.

E185.96.H23 1983

Great women in the struggle: an introduction for young readers. Toyomi Igus, editor. Orange, NJ: Just Us Books, 1991. 107 p. (Book of Black heroes, v. 2) Bibliography: p. 100-101.

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In Black and white: a guide to magazine articles, newspaper articles, and books concerning more than 15,000 Black individuals and groups. 3rd ed. Spradling, M. M. Detroit: Gale Research Co., c1980. 2 v. (1282 p.) Bibliography: p. 1267-1282.

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Z1361N39S655 1980 Suppl.

Notable Black American women. Jessie Carney Smith, editor. Detroit, Gale Research, c1992. 1334 p. Includes bibliographical references.

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Black history month resource book. Mary Ellen Snodgrass, editor. Detroit: Gale Research, c1993. 430 p. Bibliography: p. 405-408.

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L13.N27

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Q1S35

A series of articles addressing concerns over the barriers faced by minority students seeking careers in science and technology.

Books by African-American authors and illustrators for children and young adults. Williams, H. E. Chicago: American Library Association, 1991. 270 p.

Z1037.W672 1991

Sources of Book and Film Reviews and Recommendations

Appraisal: science books for young people. v.1-winter 1967- Boston, Children's Science Book Review Committee. quarterly.

Z7401.A63

Malinowsky, H. Robert. ***Best science and technology reference books for young people.*** Phoenix, Oryx Press, 1991. 216 p.

Z7401.M277 1991

Morrison, Philip, and Phylis Morrison. **Science books for young people.** *Scientific American,* v.269, Dec. 1993: 132-137, 139.

T1.S5

Outstanding science trade books for children in 1992. *Science & children,* v.30, Mar. 1993: 26-35. (The annotated list is a regular feature of the March issue.)

Science books & films. v.1- Apr. 1965- Washington, American Association for the Advancement of Science. 9 issues a year.

Z7401.S362 1992

Science & technology: a purchase guide for libraries. Pittsburgh, Carnegie Library of Pittsburgh, Science and Technology Dept., 1992. 168 p.

Published annually since 1963, this is an annotated bibliography of new books in science, technology, consumer medicine and related subjects intended primarily for the general adult reader. A special feature is the selection of books for libraries which buy only 50-100 titles each year.

Wolff, Kathryn, Susan M. O'Connell, and Valerie J. Montenegro. ***AAAS science book list, 1978-1986.*** Washington, American Association for the Advancement of Science, 1986. 568 p. (AAAS publication, 85-24)

Q181.A1A68 no. 85-24

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